App. No. 09/751,185
Response mailed August 12, 2005
Re: Office Action mailed June 9, 2005

REMARKS

In response to the Office Action mailed June 9, 2005, the Applicant respectfully requests that the Examiner consider the following remarks and an accompanying declaration by an inventor. Claims 1-4, 8-17, 21-26, and 29-36 are still pending in the application. The Applicant respectfully requests further examination and reconsideration of the application in light of the remarks and the accompanying declaration.

Rejection of Claims 1-4, 8-17, 21-26, and 29-36 Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-4, 8-17, 21-26, and 29-36 under 35 U.S.C. § 103(a) as being obvious over Culpepper et al. The Applicant respectfully traverses the rejection.

The attached inventor declaration sets forth the history of the development of vinyl siding. Prior to the present invention, those of ordinary skill in the art did not contemplate a vinyl siding panel having a slight curvature. As described in the attached inventor declaration, a common amount of curvature used in the siding industry is characterized by at least about 0.130-0.170 inch of surface variance or less than approximately 10-25 inches of radius curvature for a row of a siding panel having a width of at least four inches.

Culpepper et al. shows siding in which each row of the outer panel has a significant amount of curvature as is commonly used in the industry. The significant curvature of the rows is most clearly shown in Figure 2. As described in the attached

inventor declaration, significantly curved rows were commonly used in the siding industry to resist the effect of oil canning. This is explained by Culpepper et al. in column 1, lines 30-49. In column 3, lines 6-31, Culpepper et al. theorizes that laminating an insulating board to the vinyl panel eliminates the need to design a concave set (i.e., rows having significant curvature) into the face of the vinyl panel in order to resist the effect of oil canning. Thus, Culpepper et al. proposes that simply laminating an insulating board to the vinyl panel enables the use of a flat surface face (i.e., each row has a straight face) to more accurately simulate the appearance of wood lap siding.

Contrary to the teaching of Culpepper et al., simply laminating the vinyl panel to an insulating board does not provide the desired resistance to oil canning. When the vinyl panel expands and contracts due to temperature changes over a period of time, the vinyl panel will still oil can. In particular, the vinyl panel will distort outwardly because of the presence of the insulating board. As a result, the panel taught by Culpepper et al. does not effectively simulate the appearance of wood lap siding because of the effect of oil canning. Moreover, Culpepper et al. does not recognize that a slight curvature of a row of a siding panel may improve the resistance to oil canning while also helping to simulate the appearance of wood lap siding.

In light of the shortcomings of Culpepper et al., the inventors have discovered that providing a slight curvature to a row of a siding panel improves the resistance to oil canning. Moreover, in direct contrast to the significant curvature used by the prior art,

the slight curvature of the present invention is difficult to see with the naked eye. As a result, the slight curvature of the present invention still enables the siding panel to approximate the appearance of wood lap siding.

In contrast to the significant curvature commonly used in the industry, a slight curvature of the claimed invention is characterized by less than about 0.05 inch of surface variance or at least about 85 inches of radius curvature for a row of a siding panel having a width of at least about four inches. The inventors of the present application have discovered that providing a slight curvature to a row of a siding panel improves the resistance to oil canning as compared to a conventional straight face, vinyl siding panel. Moreover, in direct contrast to the significant curvature used by the prior art, the slight curvature of the present invention is difficult to see with the naked eye. As a result, the slight curvature of the claimed invention may still enable the siding panel to approximate the appearance of wood lap siding. As set forth in the inventor declaration, the inventor is unaware of any vinyl siding panel in the prior art having a slight curvature as set forth in the present application.

The inventors have also discovered that a siding panel having a slight curvature may significantly improve the performance of a foam-backed, vinyl siding panel. In particular, the slight curvature of the vinyl siding panel significantly increases the resistance to oil canning as compared to a conventional foam-backed, straight face vinyl siding panel. Moreover, the slight curvature of the vinyl siding panel enables the resulting siding unit to approximate the appearance of straight face siding. In fact, while

the foam backing panel may tend to further straighten out the vinyl siding panel, the built-in slight curvature of the siding panel still substantially increases the resistance to oil canning. As set forth in the attached inventor declaration, the industry failed to recognize the substantial benefits that may be obtained by using a vinyl siding panel having a slight curvature in combination with a reinforcement panel (e.g., a foam backing panel) as set forth in the claimed invention.

Therefore, the Applicant respectfully submits that Culpepper et al. cannot support the rejection of claims 1-4, 8-17, 21-26, and 29-36 under 35 U.S.C. § 103(a).

Rejection of Claims 1, 4, 8-14, 17, 21-26, and 29-36 Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 4, 8-14, 17, 21-26, and 29-36 under 35 U.S.C. § 103(a) as being unpatentable over Johnstone et al. in view of section 07460 of the Sweet Catalog. The Examiner has maintained the assertion that the present specification does not disclose that a siding panel having the specific claimed dimensions provides an advantage, is used for a particular purpose, or solves a stated problem. The Examiner has also maintained the assertion that the specific dimensions of the claimed invention are merely an obvious matter of design choice to provide a siding panel that accommodates the user's preference and various building structure requirements. The Applicant respectfully traverses the rejection.

The attached inventor declaration sets forth the history of the development of vinyl siding. The Applicant respectfully submits that the specification and the inventor declaration discuss the problem and describe how the claimed invention is the

surprising solution to the problem. In particular, the problem is oil canning. Prior to the present invention, the siding industry had a need for a straight face, vinyl siding panel that is resistant to oil canning. The specification and the inventor declaration discuss prior attempts to limit the effects of oil canning. Furthermore, the specification and the inventor declaration describe that such design considerations limited and/or diminished the appearance of the vinyl siding. In fact, as explained above, Culpepper et al. also discussed oil canning. In order to solve the problem, Culpepper et al. suggested a significantly curved face portion or, if the siding panel would be bonded to an insulating member as set forth in that patent, a straight planar portion. Based on the 1997 filing date of Culpepper et al., those of ordinary skill in the art at that time already knew about the teachings of Johnstone et al. (issued in 1987) and the Sweet Catalog (published in 1995). Still, Culpepper et al. taught that there was an oil canning problem. Consequently, it is apparent that Johnstone et al. and the Sweet Catalog did not solve the problem of oil canning or provide the necessary motivation to solve the problem of obtaining a straight face, vinyl siding panel that is resistant to oil canning. In fact, it is described above how neither solution suggested by Culpepper et al. adequately addresses the problem. As a result, the prior art leaves a need for a product that provides the dual benefits of providing the appearance of straight face vinyl siding while significantly limiting the effect of oil canning. As shown by the example provided on page 9 of the specification, the claimed invention addresses this need. The solution provided by the claimed invention was not dictated by any building code requirements.

In light of the inventor declaration and the teaching of Culpepper et al., the Applicant maintains that Johnstone et al. and the Sweet Catalog fail to teach or suggest the slight curvature set forth in the claims of the present invention. Neither reference addresses the problem of oil canning, and neither reference teaches or suggests any benefits of reducing the curvature as set forth in the claimed invention. Accordingly, the Applicant maintains the remarks that have been previously made regarding the teachings of Johnstone et al. and the Sweet Catalog. As a result, the combination of Johnstone et al. and the Sweet Catalog does not teach or even suggest the claimed invention, which provides the dual benefits of providing the appearance of straight face vinyl siding while significantly limiting the effect of oil canning. Therefore, the Applicant respectfully submits that Johnstone et al. in view of the Sweet Catalog cannot support the rejection of claims 1, 4, 8-14, 17, 21-26, and 29-36 under 35 U.S.C. § 103(a).

Rejection of Claims 2, 3, 15, and 16 Under 35 U.S.C. § 103(a)

The Examiner rejected claims 2, 3, 15, and 16 under 35 U.S.C. § 103(a) as being obvious over Johnstone et al. in view of section 07460 of the Sweet Catalog and further in view of Culpepper et al. The Applicant respectfully traverses the rejection. The attached inventor declaration describes how the claimed invention overcomes the shortcomings of the cited references. In addition, the attached inventor declaration discusses how the claimed invention solves the problem of obtaining a straight face, vinyl siding panel that is resistant to oil canning. Therefore, the Applicant respectfully submits that Johnstone et al. in view of section 07460 of the Sweet Catalog and further

in view of Culpepper et al. cannot support the rejection of claims 2, 3, 15, and 16 under 35 U.S.C. § 103(a).

Substance of the Interview

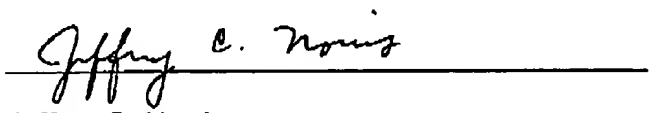
At the interview with the Examiner, an example of the claimed invention and an example of a panel having significant curvature were shown to the Examiner. It was then discussed how the claimed invention overcomes the shortcomings of the cited references. In light of the demonstration and discussion, the Examiner requested a declaration by an inventor in support of the patentability of the claimed invention.

Conclusion

The Applicant has submitted an inventor declaration to further distinguish claims 1-4, 8-17, 21-26, and 29-36 over the cited references. Therefore, the Applicant respectfully submits that the present application is now in condition for allowance, and such action is earnestly requested.

Respectfully submitted,

Date: 8/12/05



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